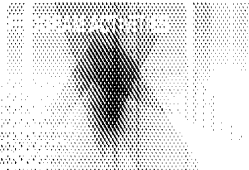


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[Terms and Conditions](#)1. [\(WO 2008/153594\) COMPACT BACKGROUND-FREE BALANCED CROSS-CORRELATORS](#)18.12.2008 G01J 11/00 PCT/
US2007/0[Technology Focus](#)

A compact, background-free, balanced cross-correlator (10) enables (a) the detection of a timing error between two ultrashort pulse resolution and (b) the timing synchronization of ultrashort pulse lasers using the output signal of the detector (38) to close a phase-locked loop. The correlator (10) therefore serve as an integral part of femtosecond timing distribution and synchronization systems.

[Priority Documents](#)[Data Services](#)2. [\(WO 2008/111970\) SIDE VIEWING OPTICAL FIBER ENDOSCOPE](#)18.09.2008 A61B 6/00 PCT/
US2007/0[Statistics](#)

An optical fiber conveys light from a source at a proximal end, to a distal end, where a **piezoelectric** material tube applies a force to the optical fiber to scan in a desired pattern. Light from the distal end of the optical fiber passes through a lens system and is at least partially reflected by a reflective surface toward a side of the scope, to illuminate tissue within a patient's body. Light received from the internal tissue is reflected by the collection optical fibers, which convey the light to proximally disposed optical detectors, or directly toward distal optical detectors. The electrical signals indicative of an intensity of the light that can be used for producing an image.

[Meetings](#)[Contact](#)3. [\(WO 2008/108784\) TUNABLE FINESSE INFRARED CAVITY THERMAL DETECTORS](#)12.09.2008 G01J 3/26 PCT/
US2007/0

Related Links

A cavity thermal detector assembly (10) is presented that allows both tunable narrowband and broadband operation. This allows for a small thermal time constant, and flexibility in designing the optical path. The thermal detector/filter layers are part of the top mirror or mirror type optical cavity and provide absorption and reflection that can be adjusted to the desired width and position of the detected band achieved by applying micromechanical methods. Broadband operation may be achieved by bringing the sensor close to the bottom mirror or its supports may or may not touch over a small area.

[International Patent](#)[Classification](#)[Natural Language IPC Search](#)4. [\(WO 2008/086448\) PHOTONIC CRYSTAL STRUCTURE SENSOR](#)17.07.2008 G01H 9/00 PCT/
US2008/0[Standards & Documentation](#)

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An acoustic sensor and a **method** of fabricating an acoustic sensor are provided. The acoustic sensor includes at least one photonic optical fiber having an end optically coupled to the at least one photonic crystal structure. The acoustic sensor further includes a structure coupled to the at least one photonic crystal structure and to the optical fiber. The at least one photonic crystal structure, the optical fiber, and the structure substantially bound a region having a volume such that a frequency response of the acoustic sensor is generally flat in a range of frequencies.

5. (WO 2008/086017) METHODS AND APPARATUS FOR SWEEP-SOURCE OPTICAL COHERENCE TOMOGRAPHY 17.07.2008 A61B 5/00 PCT/US2008/011510

In one embodiment of the invention, a semiconductor optical amplifier (SOA) in a laser ring is chosen to provide low **polarization-dependent gain**. A booster semiconductor optical amplifier, outside of the ring, is chosen to provide high **polarization-dependent gain**. The use of a series of boosters with low **polarization-dependent gain** nearly eliminates variations in the **polarization** state of the light at the output of the laser, but does not eliminate sweep variations in the **polarization** state at the output of the laser, which can degrade the performance of the SS-OCT system.

6. (WO 2008/061166) MULTI-STATE MEMORY AND MULTI-FUNCTIONAL DEVICES COMPRISING MAGNETOPLASTIC OR MAGNETOELASTIC MATERIALS 22.05.2008 H01L 29/76 PCT/US2007/011510

Apparatus and methods are disclosed that enable writing data on, and reading data of, multi-state elements having greater than two states. The elements can be made of magnetoplastic and/or magnetoelastic materials, including, for example, magnetic shape-memory alloy or other materials that can exist in multiple crystallographic states. The writing process is preferably conducted through the application of a magnetic field and/or a mechanical force. The reading process is preferably conducted through atomic-force microscopy, magnetic-force microscopy, spin-polarized electrons, magneto-optical Kerr effect, interferometry or other methods, or other methods/effects. The multifunctionality (crystallographic, magnetic, and shape states ea...

7. (WO 2008/011510) COMPENSATION OF SYSTEMATIC EFFECTS IN LOW COHERENCE INTERFEROMETRY 24.01.2008 G01B 11/02 PCT/US2007/011510

In general, in one aspect, the invention features a **method** that includes transforming interferometry data acquired for a test sample using a low coherence imaging interferometry system to a frequency domain and, at a plurality of frequencies in the frequency domain, reducing contributions to the interferometry data due to imperfections in the imaging interferometry system thereby producing compensated interferometry data. The compensated interferometry data is based on variations between interferometry data acquired using the low coherence imaging interferometry system for a calibration sample and interferometry data corresponding to data acquired for the calibration sample using a model interferometry system.

8. (WO 2008/010996) METHODS, SYSTEMS AND COMPUTER PROGRAM PRODUCTS FOR REMOVING UNDESIRE ARTIFACTS IN FOURIER DOMAIN OPTICAL COHERENCE TOMOGRAPHY (FDOCT) SYSTEMS USING CONTINUOUS PHASE MODULATION AND RELATED PHASE MODULATORS 24.01.2008 A61B 5/00 PCT/US2007/011510

Methods, fourier domain optical coherence tomography (FDOCT) interferometers and computer program products are provided for removing artifacts in FDOCT systems using continuous phase modulation. A variable phase delay is introduced between a reference arm and a sample arm of an interferometer using continuous phase modulation. Two or more spectral interferograms having different phase delay integration times are acquired. The spectral interferograms are combined using signal processing to remove the undesired artifacts. Systems and methods for switching between continuous phase shifting Fourier domain optical coherence tomography (FDOCT) and **polarization-sensitive optical coherence tomography** are also provided.

9. (WO 2007/127515) PIEZOELECTRIC MEMS SWITCHES AND METHODS OF MAKING 08.11.2007 H01L 41/00 PCT/US2007/011510

MEMS **piezoelectric** switches (100) that provide advantages of compact structure ease of fabrication in a single unit, and that are free from high temperature induced morphological changes of the contact materials and resultant adverse effects on properties. High temperature-induced morphological changes that occur during fabrication when metallic contacts such as radio frequency lines (125, 130) and shunting bars (150) are exposed to high temperatures are required to anneal a **piezoelectric** layer or those temperatures encountered during high temperature deposition of the **piezoelectric** layer are avoided by using a **piezoelectric** layer used instead.

10. (WO 2007/109199) PHOTONIC CRYSTAL SURFACE STATES

27.09.2007 G02B 6/00 PCT/
US2007/0

A photonic crystal may be configured to support a surface state for logic.

11. (WO 2007/087301) INTERFEROMETER SYSTEM FOR MONITORING AN OBJECT

02.08.2007 G01B 11/02 PCT/
US2007/0

A system is disclosed that includes a plurality of interferometers each configured to derive a **first** wavefront and a second wavefront. The system combines the **first** and second wavefronts to provide output radiation including information about an optical path length difference between the **first** and second wavefronts, each interferometer including a reflective element positioned in the path of the **first** wavefront, and at least one reflective element is mounted on a **first** object. The system also includes a plurality of fiber waveguides and an electronic controller. The system delivers the input radiation to a corresponding interferometer or deliver the output radiation from the controller.

12. (WO 2007/081387) MICROFLUIDIC DEVICES, METHODS OF USE, AND KITS FOR PERFORMING DIAGNOSTICS

19.07.2007 G01N 33/536 PCT/
US2006/0

The present invention provides novel microfluidic devices, kits, and methods that are useful for performing high-throughput screening assays. Such diagnostic methods can include emulsifying an aqueous library of compounds with a set of uniquely dyecoded-labeled droplet in a medium, thereby forming an interactor library, emulsifying an aqueous sample from a subject in an inert fluorocarbon medium, where the compound that will react with at least one interactor molecule from the interactor library, coalescing the emulsions to form a nanoreactor, and performing a reaction between the contents of the nanoreactor, herein one or more steps are performed on a microfluidic device.

13. (WO 2007/081386) MICROFLUIDIC DEVICES AND METHODS OF USE

19.07.2007 B01L 3/00 PCT/
US2006/0

The present invention provides novel microfluidic devices and methods that are useful for performing high-throughput screening assays and chemistry. The device can include a plurality of electrically addressable, channel bearing fluidic modules integrally arranged on a microfluidic substrate such that a continuous channel is provided for flow of immiscible fluids.

14. (WO 2007/081385) MICROFLUIDIC DEVICES AND METHODS OF USE IN THE FORMATION AND CONTROL OF NANOREACTORS

19.07.2007 G01N 33/536 PCT/
US2006/0

The present invention provides novel microfluidic devices and methods that are useful for performing high-throughput screening assays and chemistry. Such methods can include labeling a library of compounds by emulsifying aqueous solutions of the compounds and aqueous liquid labels on a microfluidic device, which includes a plurality of electrically addressable, channel bearing fluidic modules integrally arranged on a microfabricated substrate such that a continuous channel is provided for flow of immiscible fluids, whereby each compound is labeled by pooling the labeled emulsions, coalescing the labeled emulsions with emulsions containing a specific cell or enzyme, thereby forming a nanoreactor.

15. (WO 2007/070245) STEREOSCOPIC DISPLAY APPARATUS USING LCD PANEL

21.06.2007 H04N 13/00 PCT/
US2006/0

A stereoscopic imaging **apparatus** (200) has an illumination source (110) providing **polarized** illumination beams and at least one uniformizing **first** and second illumination beams. A left channel modulation **apparatus** (220L) modulates the **first polarized** illumination beam to provide a left eye portion of the stereoscopic image and a right channel modulation **apparatus** (220R) modulates the second **polarized** illumination beam to provide a right eye portion. Each channel modulation **apparatus** has a color separator (78) for separating the **polarized** illumination beam into at least a first component wavelength illumination and a second component wavelength illumination. Each channel modulation **apparatus** also has at least one

16. (WO 2007/067776) INFRARED DENTAL IMAGING

14.06.2007 A61C 19/04 PCT/
US2006/0

Dental imaging systems include an optical scanner that scans one or more interrogation beams across a portion of at least one tooth. The scanner produces a modulated light flux associated with light scattering, absorption, or other interaction of the interrogation beam and a tooth interior. The modulated light flux is detected and processed to produce picture information associated with the tooth. Interrogation wavelengths between 800 nm and 1000 nm are used to provide images suitable for diagnosis and assessment of demineralization or other defects. Interrogation beams at one or more wavelengths are used. Multiple detectors can be situated to receive dentally modulated light fluxes at different wavelengths or dentally modulated light fluxes at different depths.

17. (WO 2007/059088) INTERFEROMETER AND METHOD FOR MEASURING CHARACTERISTICS OF OPTICALLY UNRESOLVED SURFACE FEATURES

24.05.2007 G01B 11/02 PCT/
US2006/010000

Disclosed is an interferometry analysis **method** that includes comparing information derivable from multiple interferometry signals corresponding to surface locations of a test object to information corresponding to multiple models of the test object, wherein the multiple models are characterized by different characteristics that relate to one or more under-resolved lateral features of the test object; and outputting information about the under-resolved lateral features based on the comparison.

18. (WO 2007/049280) METHOD AND DEVICE FOR WETTABILITY MODIFICATION OF MATERIALS

03.05.2007 B05D 3/06 PCT/
IL2006/000000

A **method** and device are presented for modifying parameters of a solid material. This is implemented by applying radiation, such as a particle beam and/or heat, to at least a region of the material, and controlling at least one parameter of the applied radiation, thereby modifying a property of the material within the irradiated region(s) thereof in a reversible manner.

19. (WO 2006/118905) DISPLAY APPARATUS USING LCD PANEL

09.11.2006 G02F 1/1335 PCT/
US2006/010000

A projection **apparatus** (10) has an illumination section with a light source (20) providing a substantially unpolarized illumination beam. A multiple wavelength **polarizer** **polarizes** the substantially unpolarized illumination beam to provide a substantially **polarized** illumination beam of multiple wavelengths. A uniformizer conditions the substantially **polarized** illumination beam of multiple wavelengths to provide a uniformized illumination beam of multiple wavelengths. A color scrolling element provides a repeating, scrolled sequence of colors from a set of colors, thereby providing **first** component wavelength illumination. A component wavelength modulating section accepts the sequence of **first**, second, and third component wavelength illumination.

20. (WO 2006/118882) DISPLAY APPARATUS USING LCD PANEL

09.11.2006 H04N 9/31 PCT/
US2006/010000

A projection **apparatus** (10) has an illumination section that provides **first**, second, and third light sources (20) for providing **first**, second, and third component wavelength modulating sections modulate the corresponding illumination to provide **first**, second, and third component wavelength modulated component wavelength beams respectively. Each component wavelength modulating section uses a portion of a monochrome transmissive liquid crystal modulator panel (118) that has been segmented into at least a **first**, second, and third portion. A component wavelength **polarizer** directs substantially **polarized** light to the corresponding portion of the monochrome transmissive liquid crystal modulator panel. An illumination path Fresnel lens focuses incident light onto the monochrome transmissive liquid crystal modulator panel.

21. (WO 2006/118881) PROJECTION APPARATUS USING LCD PANEL

09.11.2006 H04N 9/31 PCT/
US2006/010000

A projection **apparatus** (10) has an illumination section (68) that provides at least a **first**, a second, and a third component wavelength modulating sections accept and modulate the component wavelength illumination to provide a modulated component wavelength illumination. Each component wavelength modulating section has a portion of a monochrome transmissive liquid crystal modulator panel (118) that has been segmented into at least a **first**, a second, and a third spatially separate portion. A component wavelength **polarizer** directs substantially **polarized** light to the corresponding portion of the monochrome transmissive liquid crystal modulator panel. An illumination path Fresnel lens focuses incident light onto the monochrome transmissive liquid crystal modulator panel.

22. (WO 2006/102997) METHOD OF MANUFACTURING AN OPTICAL ELEMENT

05.10.2006 G01B 9/02 PCT/
EP2006/010000

A **method** of manufacturing an optical element comprises an interferometric test of the optical element using an interferometer system combined with principles of white-light interferometry. The optical element is disposed in a cavity between a Fizeau surface and a mirror. A difference between a back surface of the optical element and the mirror is determined for determining parameters of the optical element thereon. Measuring light from an optical delay **apparatus** is supplied to the Fizeau interferometer through an optical fiber.

23. (WO 2006/093655) **TETHERED CAPSULE ENDOSCOPE FOR BARRETT'S ESOPHAGUS SCREENING** 08.09.2006 A61B 1/06 PCT/US2006/0

Capsule (20) is coupled to a tether (22) that is manipulated to position the capsule and a scanner (26) included within the capsule at a location in a patient's body. Images produced by scanner can be used to detect Barrett's Esophagus (BE) and early (asymptomatic) esophageal cancer. Capsule is swallowed and positioned with the tether to enable the scanner in the capsule to scan a region of the esophagus above the characteristic dark pink color indicative of BE. The scanner moves in a desired pattern to illuminate a portion of the inner surface. Light is then received by detectors in the capsule, or conveyed externally through a waveguide to external detectors. Electrical ...

24. (WO 2006/050263) **METHOD AND APPARATUS FOR CONTROLLABLY PRODUCING A LASER DISPLAY** 11.05.2006 G03B 21/14 PCT/US2005/0

A laser projection device (LPD) suitable for displaying color images is disclosed. The LPD is used to excite various photoluminescent materials on a display screen so as to produce multi-color displays. Additionally, the screen may be movably mounted so as to reduce laser speckle.

25. (WO 2006/040253) **PROGRAMMABLE MOLECULAR MANIPULATING PROCESSES** 20.04.2006 B82B 3/00 PCT/EP2005/0

A system manipulates molecules using a set of proximal probes such as those used in atomic force microscopes. An electrostatic pattern is applied to the proximal probes such that each proximal probe may exert an electrostatic force. A molecule is captured using those electrostatic forces. The molecule can be manipulated while the molecule remains captured by the proximal probes. The electrostatic pattern can be modified so that the molecule moves and/or rotates over the set of proximal probes while the molecule remains captured by the set of proximal probes. The electrostatic pattern can be used to bend or split the molecule while the molecule remains captured by the set of proximal probes, thereby allowing the system to e...

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